

***“The Effects of the Activities of the Commune of Jelcz-Laskowice
in Improving the Energy Efficiency of Municipal Buildings”
Jelcz-Laskowice, 9th November 2011***

On 9th November 2011 from 9 am to 3 pm was held a regional training conference *“The Effects of the Activities of the Commune Jelcz-Laskowice in Improving the Energy Efficiency of Municipal Buildings”* conducted within the sub-project RIEEB EnercitEE.

The conference was attended by headteachers of municipal schools, representatives of the City Council in Jelcz-Laskowice, employees of the Town and Commune Office in Jelcz-Laskowice and its subordinate units, as well as a representative of the Czernica Commune Office.

The conference was opened by Mr Kazimierz Putyra, Mayor of Jelcz-Laskowice and Mr Andrzej Dudek - RIEEB EnercitEE sub-project coordinator, who presented the conference agenda.



Mr Kazimierz Putyra – Mayor of Commune of Jelcz-Laskowice



Mr Andrzej Dudek – RIEEB sub-project coordinator

The first part of the training conference was led by Mr Marek Mickaniewski of EKO Audytor. The main topic of his speech was the presentation of results and methods of performing audits and energy performance certificates for municipal buildings at "Fabryczne" housing estate, which have been subjected to thermal modernization as part of the Local Revitalization Programme implemented by the Commune of Jelcz-Laskowice. The presentation was made in relation to the review of the energy condition of the buildings in Poland on the basis of the BuildDesk report.

In the second part of the conference Mr Tomasz Hajdamowicz, representing the company "ROBUR Gazowe Pompy Ciepła" [gas heat pumps], discussed the construction, operation principle and embodiments

of the gas absorption heat pumps (GAHP) - facilities proposed in the energy audits as improving insulation upgrade to reduce the building's energy demand and reduce operating costs of evaluated buildings.

Generally a heat pump is a mechanical device used for heating (and cooling if necessary) which operates by moving heat from a lower temperature location to a higher temperature location. Heat pumps are able to extract heat from air, water or ground. In the cooling mode a heat pump works the same as an ordinary air conditioner. A heat pump uses an intermediate fluid called a refrigerant which absorbs heat as it vaporizes and releases the heat when it is condensed. It uses an evaporator to absorb heat from inside an occupied space and rejects this heat to the outside through the condenser.

Specific principle of operation the **Gas Absorption Heat Pump (GAHP)** are:

Condensation: refrigerant flowing from the generator passes from a gaseous to liquid state, giving off heat to the external fluid (water or air)

Expansion: passing through the restrictors, i.e. suitably calibrated narrowings, the refrigerant is cooled

Evaporation: the refrigerant absorbs heat from the external fluid (water or air) and evaporates completely, returning to a gaseous state

Absorber: the refrigerant is absorbed by an absorbing fluid, making it liquid once more

Generator: the liquid solution of the refrigerant and absorbing is heated in the generator by means of a gas burner, separating the refrigerant, which evaporates, increasing in temperature and pressure

All of these transformations together make up the gas heat pump's cycle: by supplying energy with the gas burner (methane/LPG) the refrigerant in the evaporator absorbs heat from the external fluid and, through the condenser, transfers it to the medium to be heated.



Regional conference participants

After the presentation there was a discussion during which the conference participants had the possibility to ask questions and share their experiences resulting from the local conditions associated with the problems of administrating municipal buildings in the Commune of Jelcz-Laskowice.

During the discussion, the participants covered issues related to investment and operating costs, the use of the discussed facilities and other heat sources using renewable energy in municipal public buildings and

residential buildings, maintenance, problems with the supply of gas to residential areas in the Commune of Jelcz-Laskowice, and the possibility of using these facilities as ventilation and air conditioning systems.



From left – Mr Tomasz Hajdamowicz, Mr Marek Mickaniewski (speakers), Ms Katarzyna Ciechanowska and Mr Andrzej Dudek